

Service Manual



Stereo Cassette Player

Mini Cassette

RQ-SX3



Colour

(K)... Black Type

Area

Suffix for Model No.	Area	Colour
(E)	Europe.	(K)
(EB)	Great Britain.	

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AR90 (AR90IV) MECHANISM SERIES

SPECIFICATIONS

Power Requirement: Battery; DC 1.5V one "AA" size battery (not included)
(Panasonic R6, LR6 or equivalent not included)
Rechargeable Battery; DC 1.2V with an included Panasonic Rechargeable Battery
(RP-BP62EYS) × 1
5mW+5mW

Power Output: Headphones; 16Ω (mini jack $\phi 3.5$)
Output Jack: (W × H × D) 108.5 × 76.6 × 21.8mm
Dimensions: 184g (with rechargeable battery)
Weight:

Charger: (E) Input; AC 220V, 50Hz, 4W
(RP-BC155EY-0) (included)
(EB) Output; DC 1.2V, 350mA
Input; AC 240V, 50Hz, 4W
(RP-BC155EBYA) (included)
Output; DC 1.2V, 350mA
Frequency Range: 15~20,000Hz (with a normal tape)
(-6dB) 15~20,000Hz (with a CrO₂ tape)
15~20,000Hz (with a Metal tape)
Motor: Electrical governor motor
Track System: 4-track 2-channel stereo playback
Tape Speed: 4.8cm/s

Note: Design and specifications are subject to change without notice.
Weight and dimensions are approximate.

CONTENTS

	Page
LOCATION OF CONTROLS	2
HOLD OPERATION	2
REMOTE CONTROL OPERATION	2, 3
POWER SOURCE	3
ACCESSORIES	3
PROCEDURE FOR THE REPLACEMENT OF THE MECHANISM BLOCK	4
OPERATION CHECKS AND MAIN COMPONENT REPLACEMENT PROCEDURES	5~8
MEASUREMENTS AND ADJUSTMENTS	9
SCHEMATIC DIAGRAM	10~12

	Page
PRINTED CIRCUIT BOARDS	13, 14
TERMINAL FUNCTION OF IC	15
CABINET PARTS LOCATION	16
MECHANISM PARTS LOCATION	17
REPLACEMENT PARTS LIST	18, 19, 21
PACKAGING	18
RESISTORS AND CAPACITORS	20
SUPPLY OF RECHAGABLE BATTERY AS REPLACEMENT PARTS	21
CAUTION IN USE OF RECHARGEABLE BATTERY	21

Panasonic®

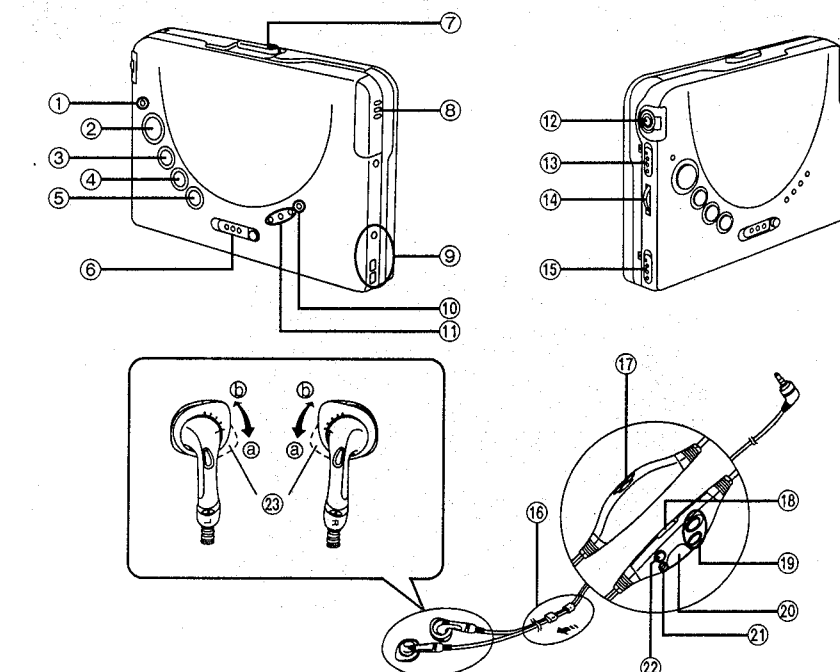
LOCATION OF CONTROLS

Main unit

- ① Operation/battery check indicator (OPR/BATT)
- ② Play/direction button (◀ ▶)
- ③ Stop button (■)
- ④ Rewind button (REW)
- ⑤ Fast forward button (FF)
- ⑥ Hold switch (PUSH HOLD)
- ⑦ Cassette compartment cover open lever (OPEN)
- ⑧ Rechargeable battery compartment cover
- ⑨ Connection part for battery case
- ⑩ Repeat indicator (ONE-REPEAT)
- ⑪ TPS, tone indicator (1/S-XBS, 2/TRAIN, 3/LIVE)
- ⑫ Headphones jack (♂) 16Ω (φ3.5)
- ⑬ Dolby noise reduction selector (□ □ NR)
- ⑭ Volume control (VOLUME)
- ⑮ Play mode selector (Blank skip, Reverse mode)

Stereo earphones with remote controller

- ⑯ Slider
When not in use slide up the slider to prevent entanglement of the cord.
- ⑰ Volume control (VOLUME)
- ⑱ Hold switch (HOLD)
- ⑲ +, - button
- ⑳ Tape operation button



- ㉑ Operation indicator (OPR)
Lights during operation.
- ㉒ ASC equalizer button (ASC EQ)
- ㉓ Fitting ring

Before using the stereo earphones

The size of the earpiece can be adjusted. When it's too loose in the ear, turn the fitting ring to ①, when it's too tight, turn to ②.

HOLD OPERATION

When in the hold state, the unit will not operate even if one of its function button is pressed. This is to prevent the unit being operated accidentally and ensuing wear on the battery.

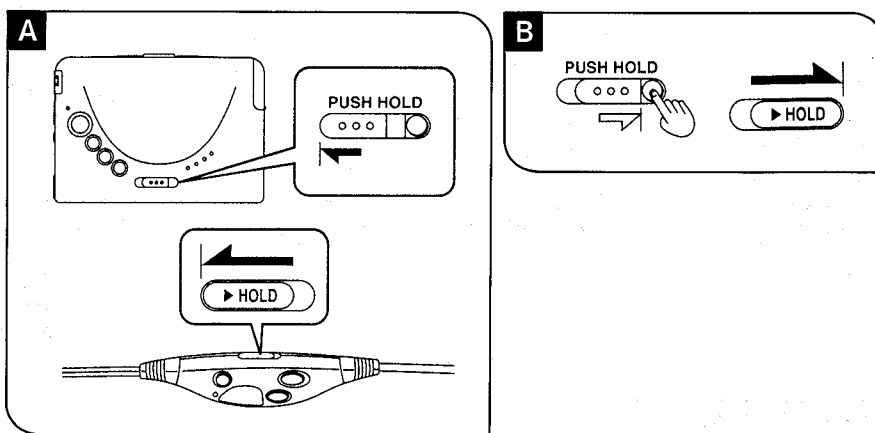
Be sure to release the hold state before operation.

■ **Before operating A**
Release the hold state.

■ **After operating B**
(To prevent accidental operation)

Set to the HOLD position.

As for PUSH HOLD on the main unit, simply press the button.



REMOTE CONTROL OPERATION

- ① Tape operation button
- ② ASC EQ button

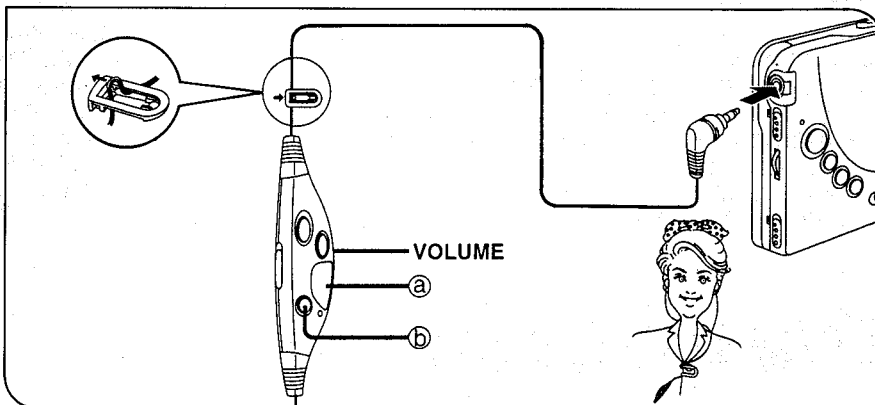
Before using those buttons, plug the stereo earphones into the ♂ jack and be sure to release the hold state.

To adjust the volume

Before using the VOLUME on the remote control, be sure to adjust the volume control on the main unit to "5-7" position.

How to attach the cord clip

Fit the cord securely into the groove in the clip.



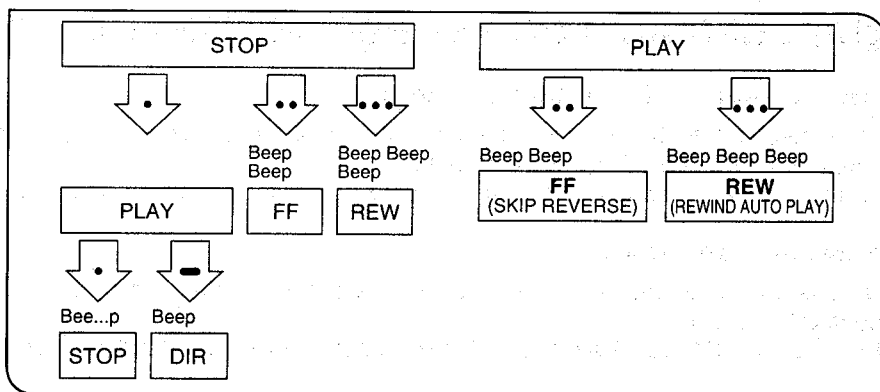
To change the tape operation

Press the tape operation button.

- : Press once to play and stop.
- : Press and hold to change the direction.
- : Press twice for fast forward.
- : Press three times for rewind.

• When pressing the button twice or three times in succession, press it within one second and at equal interval.

When it is pressed twice or three times during play, play will start from beginning of the tape (opposite or the same side).



POWER SOURCE

This player can operate on any of 2 different power sources:

1. Rechargeable battery (included)
2. Dry cell battery (not included)

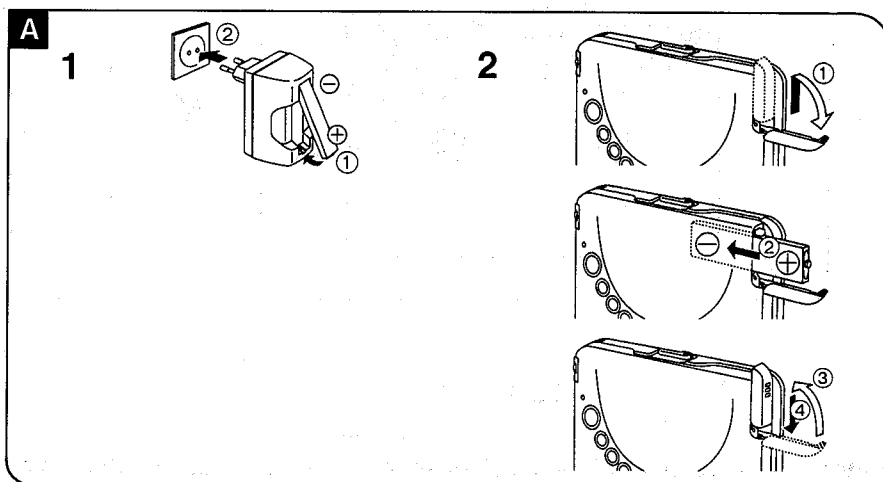
Rechargeable battery **A**

For its initial use after purchasing or after a long time interval (more than three months), be sure to recharge the rechargeable battery.

Normally 2 hours recharging will give approximately 5 hours 30 minutes tape playback (at 25°C).

1 Recharge the rechargeable battery.

2 Insert the charged battery into the unit.



Dry cell battery **B**

1 Insert a R6/LR6 battery (UM-3 or equivalent, not included) into the battery case.

2 Attach to the unit.

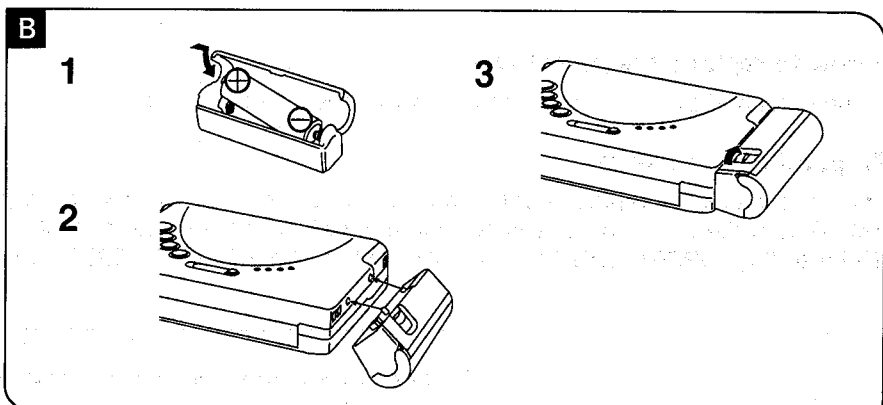
3 Turn the screw until it locks.

To extend the playback time

Install both types of battery (rechargeable and dry cell battery) in the unit.

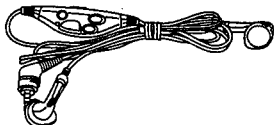
When the battery becomes weak

The OPR/BATT indicator will dim or turn off. Recharge the rechargeable battery or replace the dry cell battery with new one.

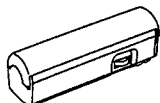


ACCESSORIES

Stereo earphones with remote controller 1 pc.
(RFEV122P-KS)



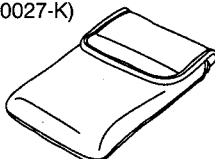
Battery case 1 pc.
(RFA0310-K2)



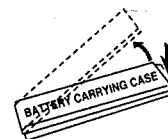
Charger 1 pc.
[RP-BC155EY-0 (E)] [RP-BC155EY-A (EB)]



Carrying bag 1 pc.
(RFC0027-K)



Rechargeable battery 1 pc.
(RP-BP62EYS)



Cord clip 1 pc.
(RGQ0090-K)



■ PROCEDURE FOR THE REPLACEMENT OF THE MECHANISM BLOCK

• How to replace the mechanism block

The mechanism block is supplied without other parts as a semi-assembly. The head block, motor and belt are supplied separately from the mechanism block.

If the mechanism block is exchanged as a replacement assembly, follow the preparation procedure below.

Preparation procedure

Remove the head block, motor and belt from the mechanism to be replaced and replace those parts to the new mechanism block.

(Refer to the "OPERATION CHECKS AND MAIN COMPONENT REPLACEMENT PROCEDURES".)

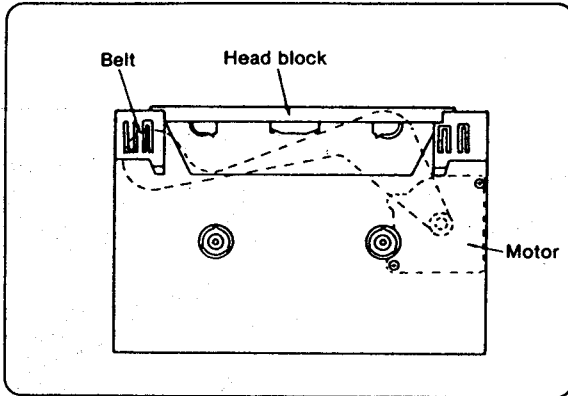
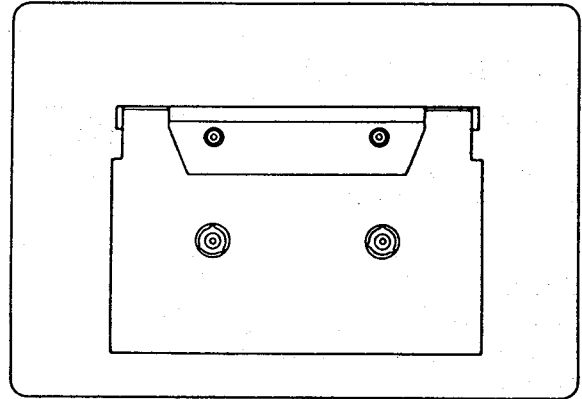


Fig. 1



Mechanism block

Fig. 2

Note: The adjustment of the mechanism block is unnecessary after replacement.

• How to replace the head block

The head and pinch roller are supplied together in the head block. The pinch roller is also supplied separately.

Preparation procedure

The head block for replacement is not supplied with a holder as shown in the figure below. Therefore, remove the holder from the block to be repaired and mount it to the new head block. Then, proceed to replace the head block. (Refer to the "OPERATION CHECKS AND MAIN COMPONENT REPLACEMENT PROCEDURES".)

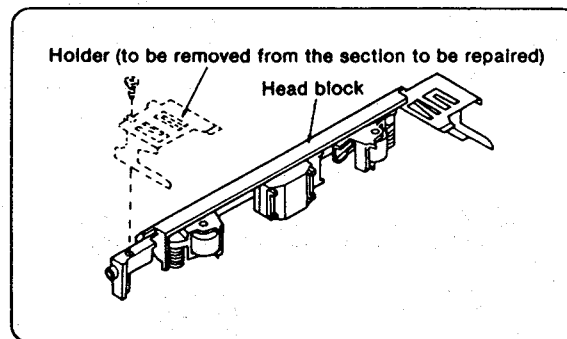


Fig. 3

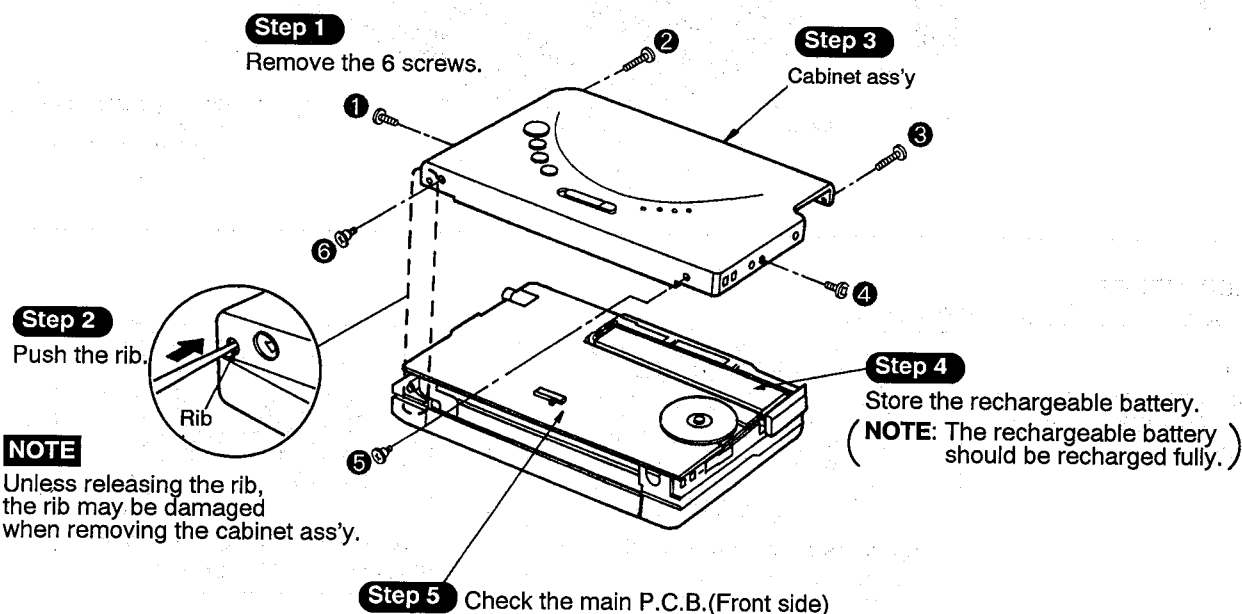
Note: Head azimuth adjustment is unnecessary.

■ OPERATION CHECKS AND MAIN COMPONENT REPLACEMENT PROCEDURES

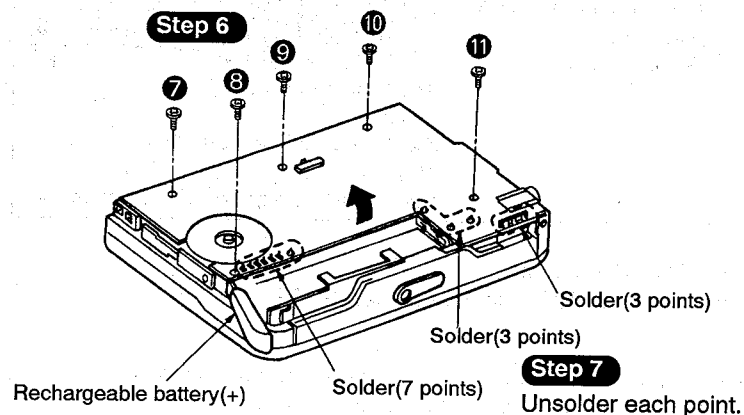
NOTE

1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
2. For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.
3. Illustrated screws are equivalent to actual size.
4. [] indicates parts No.

1. Checking for the main P.C.B.



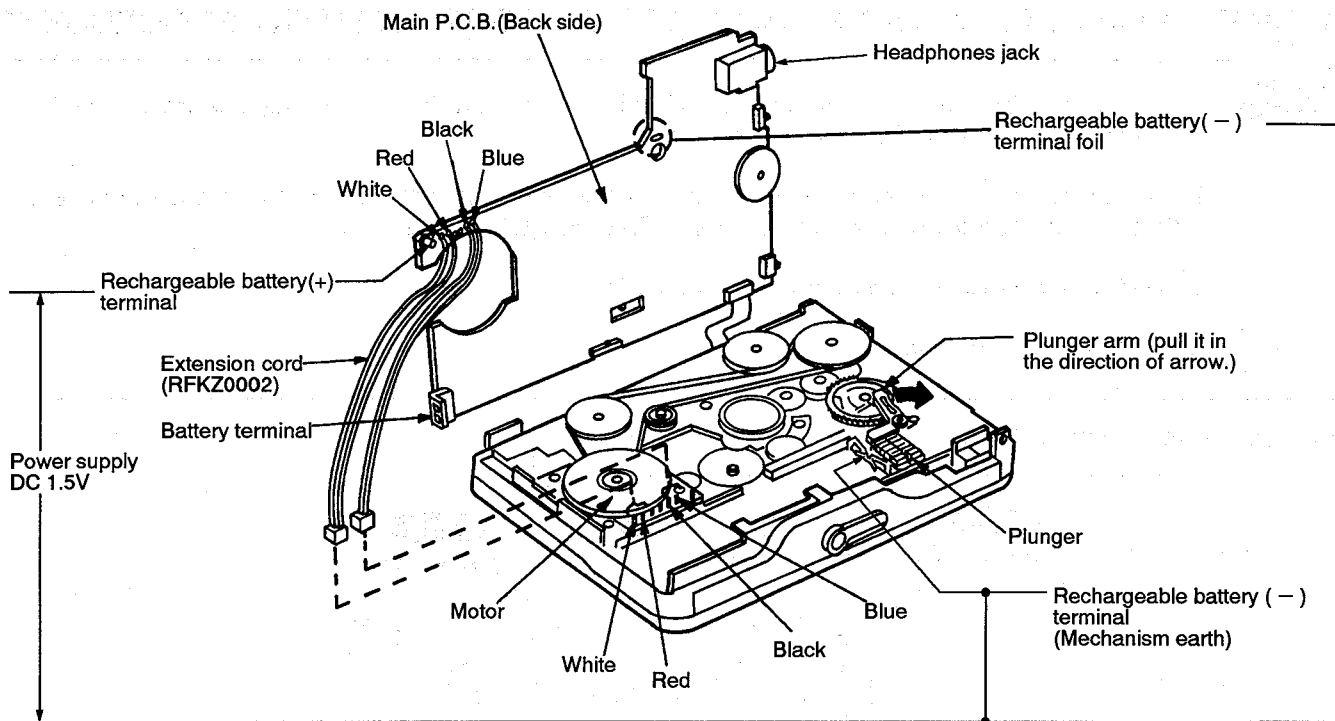
Removal for checking the main P.C.B. (Back side)



NOTE

When the main P.C.B. is removed, the rechargeable battery terminal(+) will also be removed.

1, 4	2, 3
Screw $\phi 1.4 \times 2.5\text{mm}$	Screw $\phi 1.4 \times 3\text{mm}$
5, 6	7 ~ 11
Screw	Screw $\phi 1.4 \times 3\text{mm}$

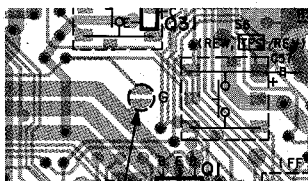


Short Points

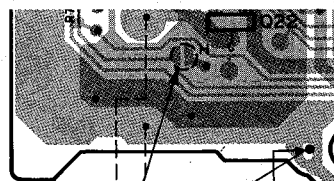
- Solder the short land to short the circuit.

Note:

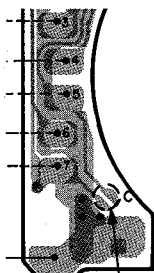
This diagram shows a front view of the IC3 mounting surface.



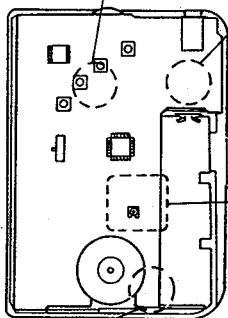
Short the short land ③ (Back side)
(Gauge No. B-4 on page 14.)



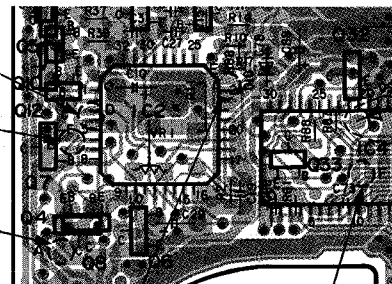
Short the short land ④ (Back side)
(Gauge No. B-2 on page 13.)



Short the short land ⑤
(Back side)
(Gauge No. F-3 on page 13.)



Short the short land ⑥
(Back side)
(Gauge No. G-3 on page 13.)
Short the short land ⑦
(Back side)
(Gauge No. E-3 on page 13.)
Short the short land ⑧
(Back side)
(Gauge No. E-3 on page 13.)



Short the short land ⑨
(Back side)
(Gauge No. D-3 on page 14.)
Short the short land ⑩
(Back side) (Gauge No. E-4 on page 14.)

Mechanism Mode Setting

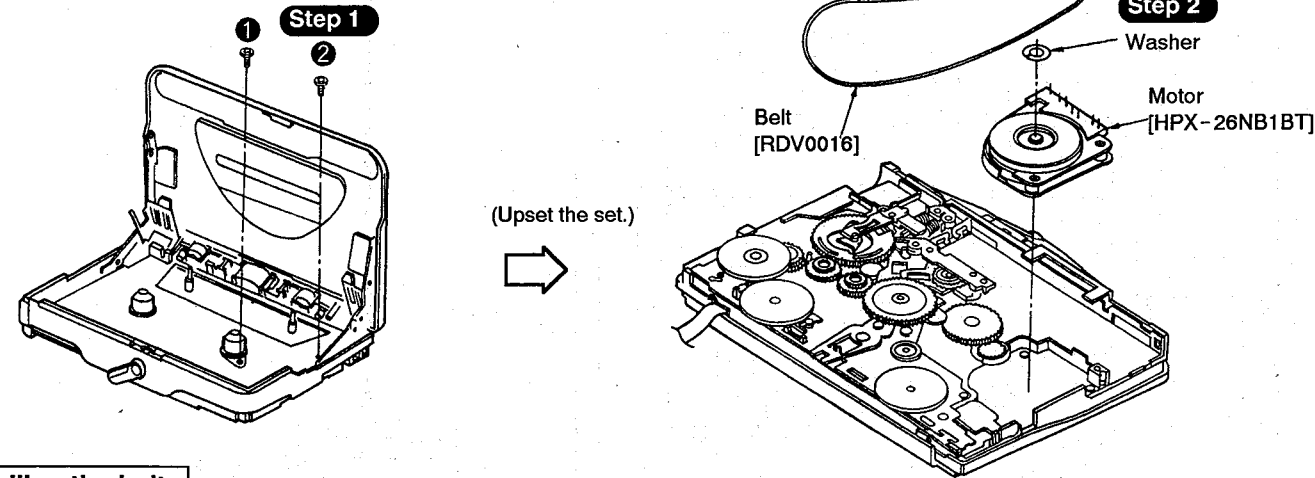
- Manually operate the plunger arm when checking the PLAY/STOP operation.
- Manually pulling the plunger arm once sets the FWD mode; twice, REV; and, three times, STOP.

NOTE

1. Operate the plunger arm manually. Even if the operation buttons are pressed, the plunger will not be actuated.
2. Even if the mechanism unit is switched to the FWD mode, the head change — over switch (IC1) will remain in the REV position, so set the REV mode to check the audio.
Before checking the operation problems and adjustments, be sure to release the hold state.
(Hold switch(S3): OFF)
3. After checking, unsolder the short land ③, ④, ⑤, ⑥, ⑦, ⑧ and ⑨.

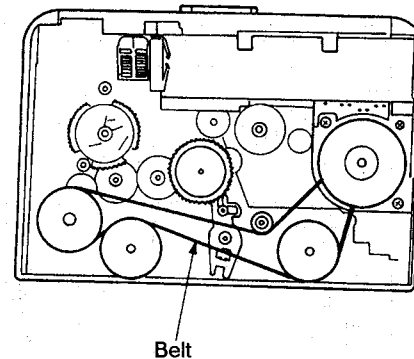
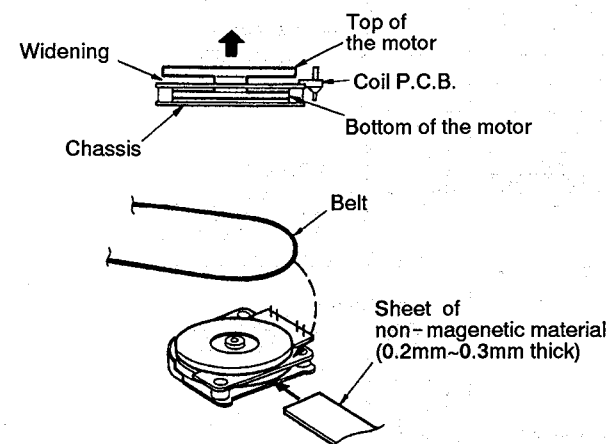
2. Replacement for the motor and belt

- Follow **Step 1** ~ **Step 3**, **Step 6**, **Step 7** in item 1 on page 5.



Installing the belt

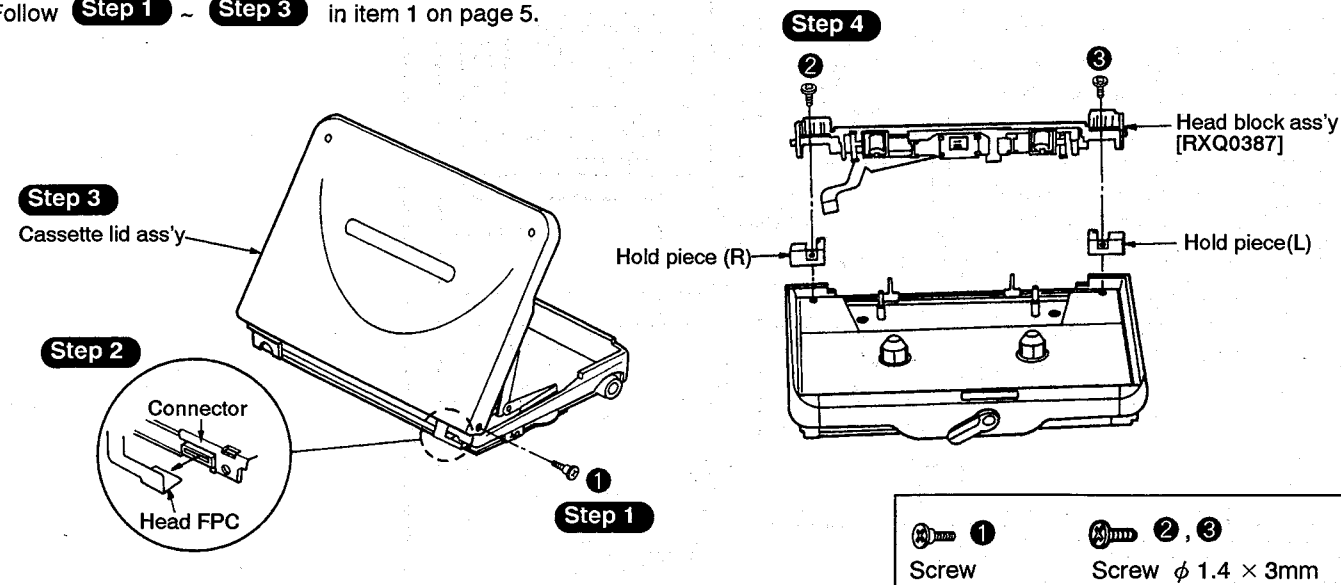
- When install the belt to motor, push up the motor by insert the non-magnetic material sheet between bottom of the motor and the chassis, and install the belt between top of the motor and the coil P.C.B..



①, ②
Screw $\phi 1.4 \times 1.8\text{mm}$

3. Replacement for the head block ass'y and pinch roller

- Follow **Step 1** ~ **Step 3** in item 1 on page 5.

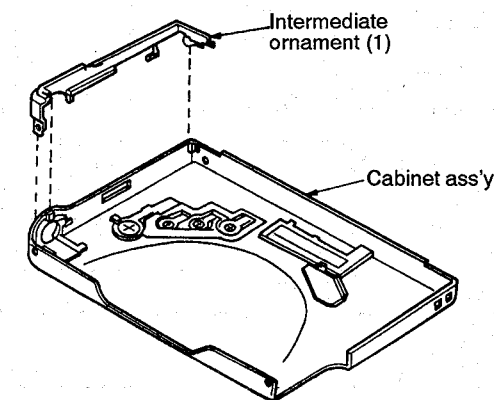


① Screw
②, ③ Screw $\phi 1.4 \times 3\text{mm}$

Assembling Procedure for cassette lid ass'y and cabinet ass'y after checking/parts replacement

Step 1

Install the intermediate ornament (1).

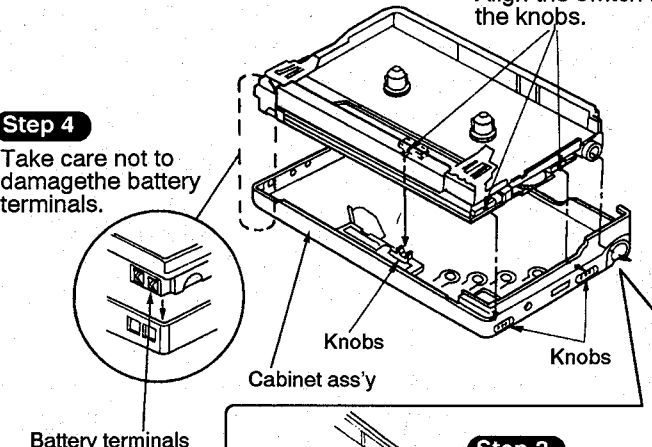


Step 2

Align the switch bosses with the knobs.

Step 4

Take care not to damage the battery terminals.

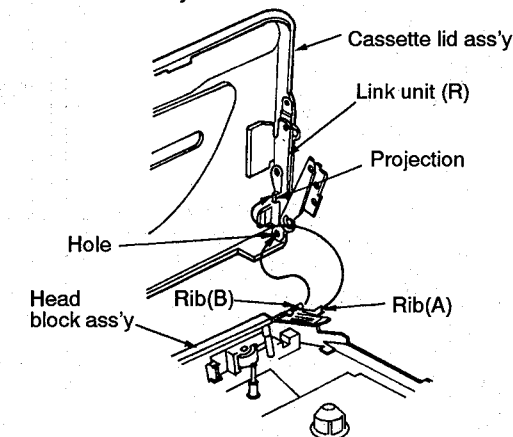


Step 3

Align the headphones jack with the hole of cabinet ass'y.

Step 5

Align the rib (A) and (B) of head block ass'y with the projection and hole of link unit, and then install the cassette lid ass'y.



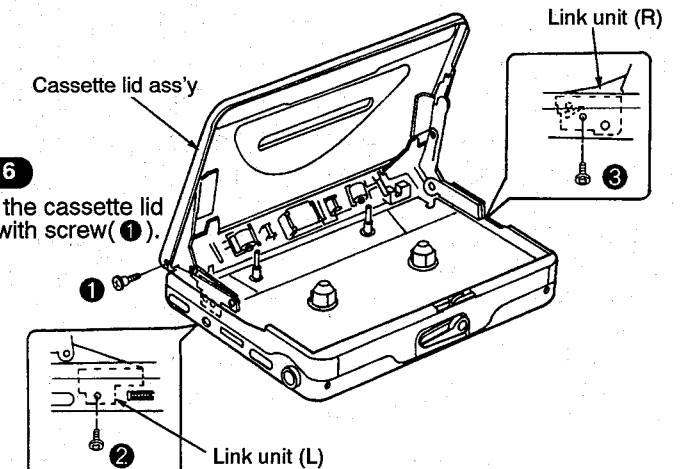
① Screw
②, ③ Screw $\phi 1.4 \times 2.5\text{mm}$

Step 7

Install the link unit (L), (R) as shown below with screw (②, ③).

Step 6

Install the cassette lid ass'y with screw (①).



MEASUREMENTS AND ADJUSTMENTS

ADJUSTMENT INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING ADJUSTMENTS

1. Set volume control to maximum.
2. Set Dolby NR Switch to OFF.
3. Release the hold state. (Refer to page 2)
4. Set power source voltage to 1.5V DC.

CONTROL POSITIONS AND EQUIPMENT USED

1. Frequency counter

TAPE SECTION

ITEM	TEST TAPE	MEASUREMENT POINT	ADJUSTMENT POINT	PROCEDURE
Tape speed adjustment	QZZCWAT (3kHz, -10dB)	Connect the frequency counter to Headphones jack (16Ω) (Refer to Fig. 1)	VR1 (Refer to Fig. 2)	Playback the central part of the tape and adjust VR1 so that the tape speed is as follows. Forward: 3000 ± 10 Hz Reverse: 2940~3050 Hz Make sure that the frequency range is within ± 60 Hz for between "Forward" and "Reverse" mode.

Note: The playback head is supplied on the head arm assembly. (See the Mechanism parts location on page 17.)
The assembly requires no adjustment.

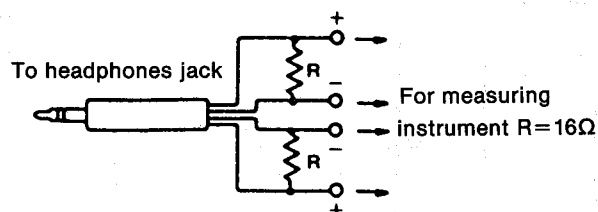


Fig. 1

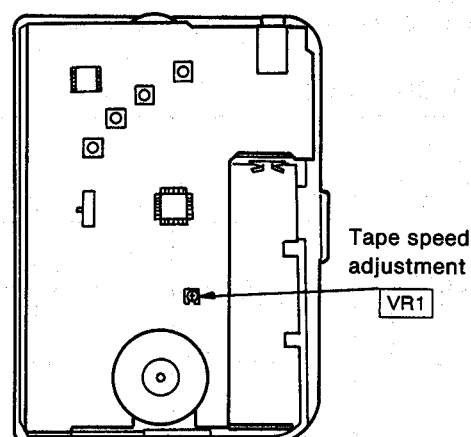


Fig. 2

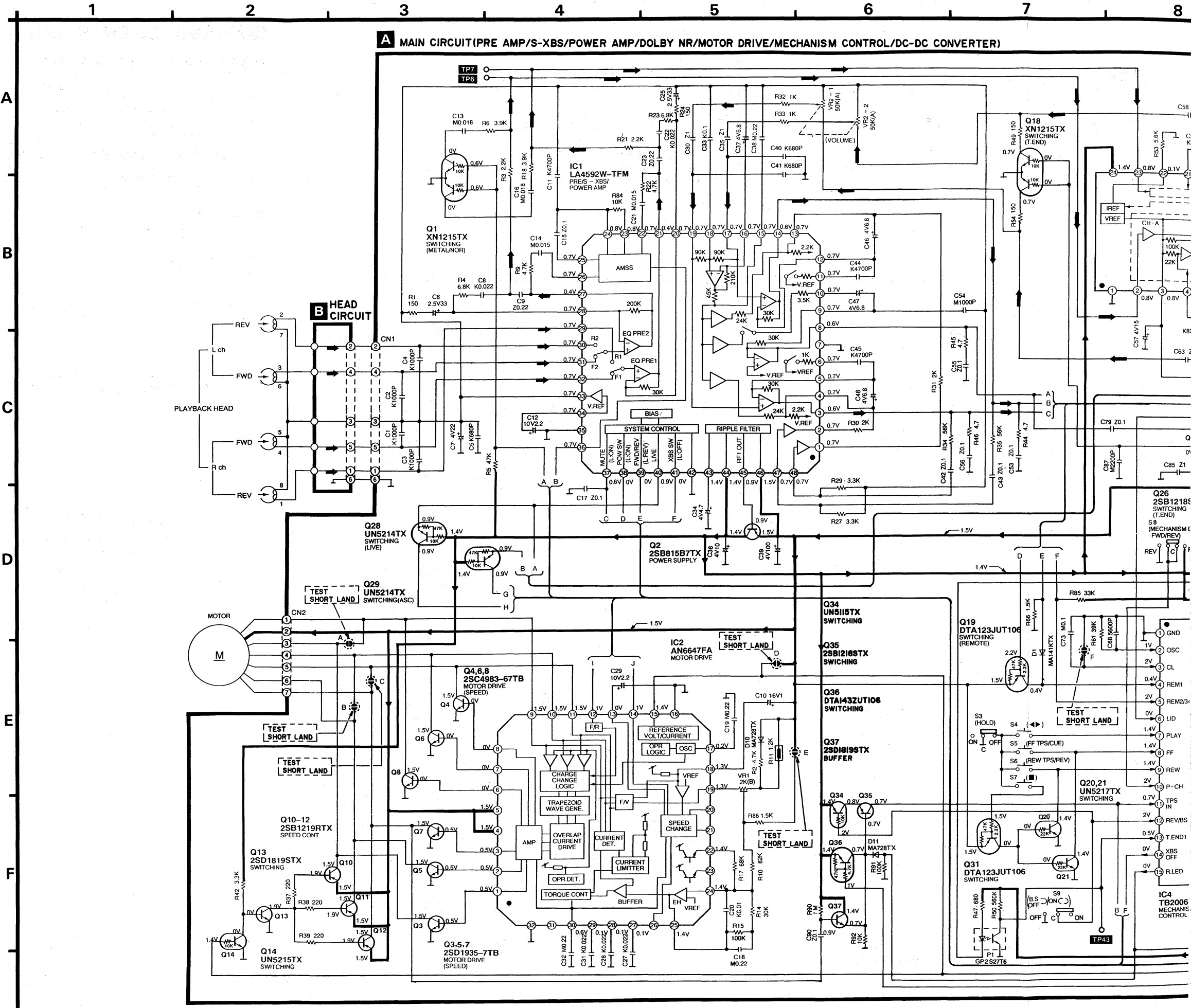
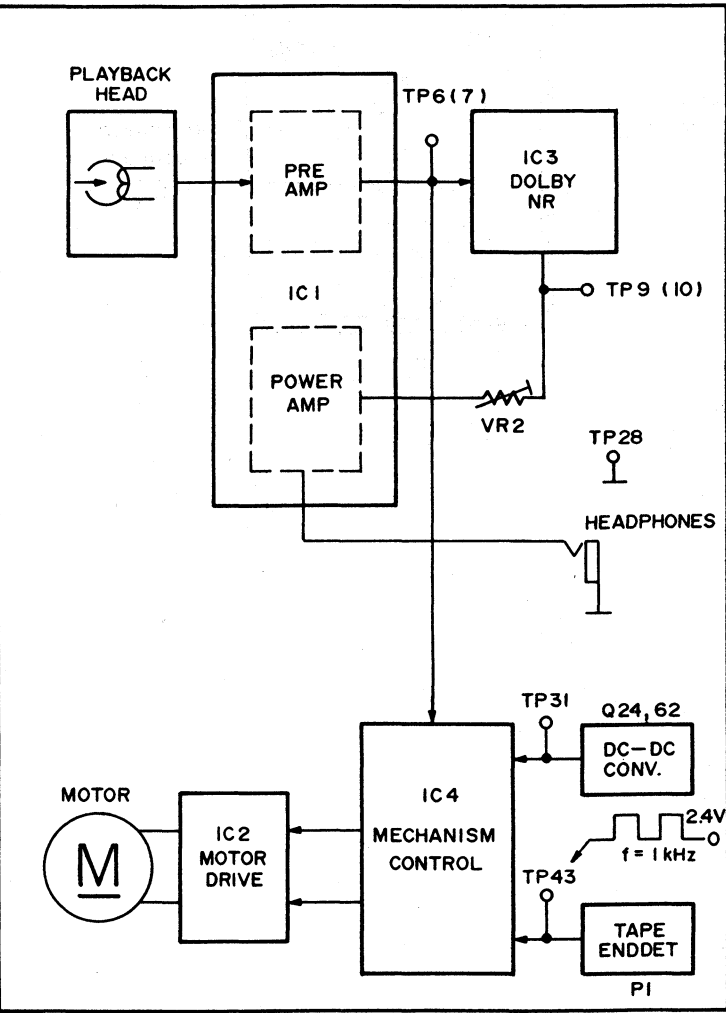
■ SCHEMATIC DIAGRAM

(See parts list on pages 19, 20.)

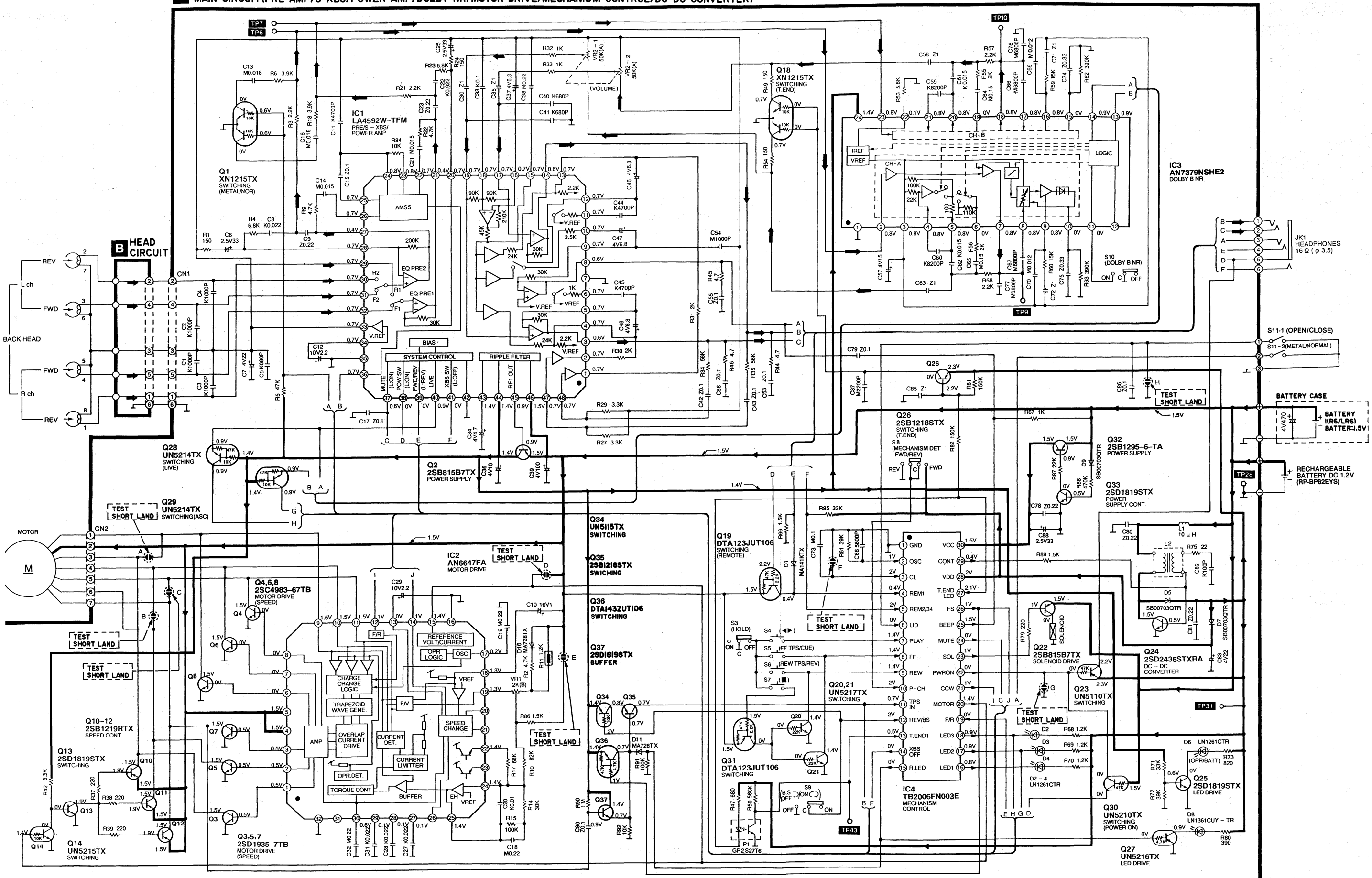
(This schematic diagram may be modified at any time with development of new technology.)

- Notes:
- S3 : HOLD (PUSH HOLD) switch in "OFF" position.
 - S4 : Play/direction (◀▶) switch.
 - S5 : Fast forward (FF) switch.
 - S6 : Rewind (REW) switch.
 - S7 : Stop (■) switch.
 - S8 : FWD/REV switch in "FWD" position.
 - S9 : Play mode selector (BLANK SKIP, REVERSE MODE) in "C" position.
(ON: C, OFF: D)
 - S10 : Dolby noise reduction (NR) switch in "OFF" position.
 - S11-1 : Tape detector (OPEN/CLOSE) switch in "OPEN" position.
 - S11-2 : Tape detector (METAL/NORMAL) switch in "OFF (METAL)" position.
 - VR1 : Tape speed adjustment.
 - VR2 : Volume adjustment.
 - DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
No mark... Playback.
 - Volume VR [MAX...110mA
MIN....115mA]
 - Signal line
→ : +B line, → : Playback signal.

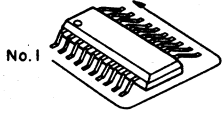
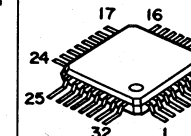
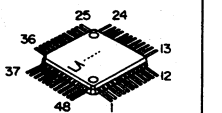
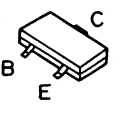
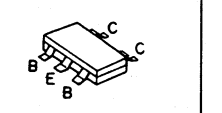
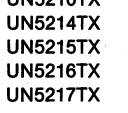
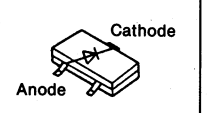
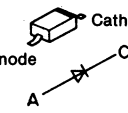
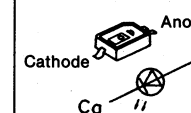
• BLOCK DIAGRAM



A MAIN CIRCUIT(PRE AMP/S-XBS/POWER AMP/DOLBY NR/MOTOR DRIVE/MECHANISM CONTROL/DC-DC CONVERTER)



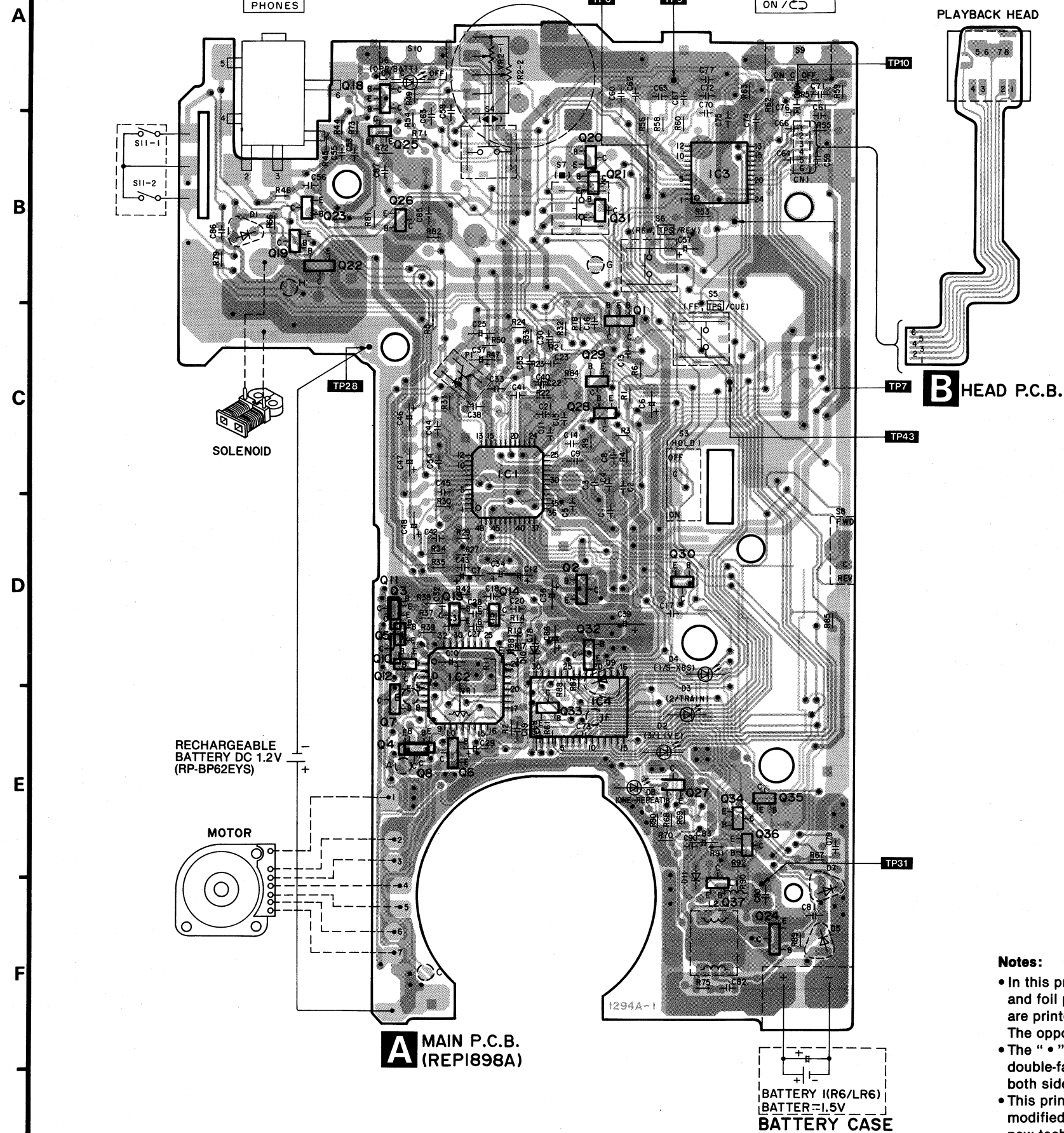
• Terminal guide of IC's, transistors and diodes

AN7379NSHE2 24Pin TB2006FN003E 30Pin 		AN6647FA 
LA4592W-TFM 		2SB815B7TX 2SB1218STX 2SB1219RTX 2SB1295-6-TA 2SC4983-67TB 2SD1819STX 2SD1935-7TB 2SD2436STXRA DTA123JUT106 UN5115TX(B) DTA143ZUT106(B)
XN1215TX 		UN5110TX UN5210TX UN5214TX UN5215TX UN5216TX UN5217TX
MA41KTX SB00703QTR 	MA728TX 	LN1261CTR LN1361CUY-TR 

• CHECK POINT OF SIGNAL

CHECK ITEM		TEST POINT
HEAD → PRE OUTPUT	Lch	TP7
	Rch	TP6
	GND	TP28
PRE OUTPUT → DOLBY NR OUTPUT	Lch	TP10
	Rch	TP9
	GND	TP28
DOLBY NR OUTPUT → VR INPUT	Lch	VR TERMINAL
	Rch	VR TERMINAL
	COM	VR TERMINAL
VR INPUT → VR OUTPUT	Lch	VR TERMINAL
	Rch	VR TERMINAL
	COM	VR TERMINAL
POWER AMP OUTPUT → HEADPHONE OUTPUT	Lch	HP TERMINAL
	Rch	HP TERMINAL
	COM	HP TERMINAL
DC-DC CONVERTER (BOOSTER)	2.4V OUTPUT	TP31
	GND	TP28
PHOTO COUPLER (END)	PULSE OUTPUT	TP43

PRINTED CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM



Notes:

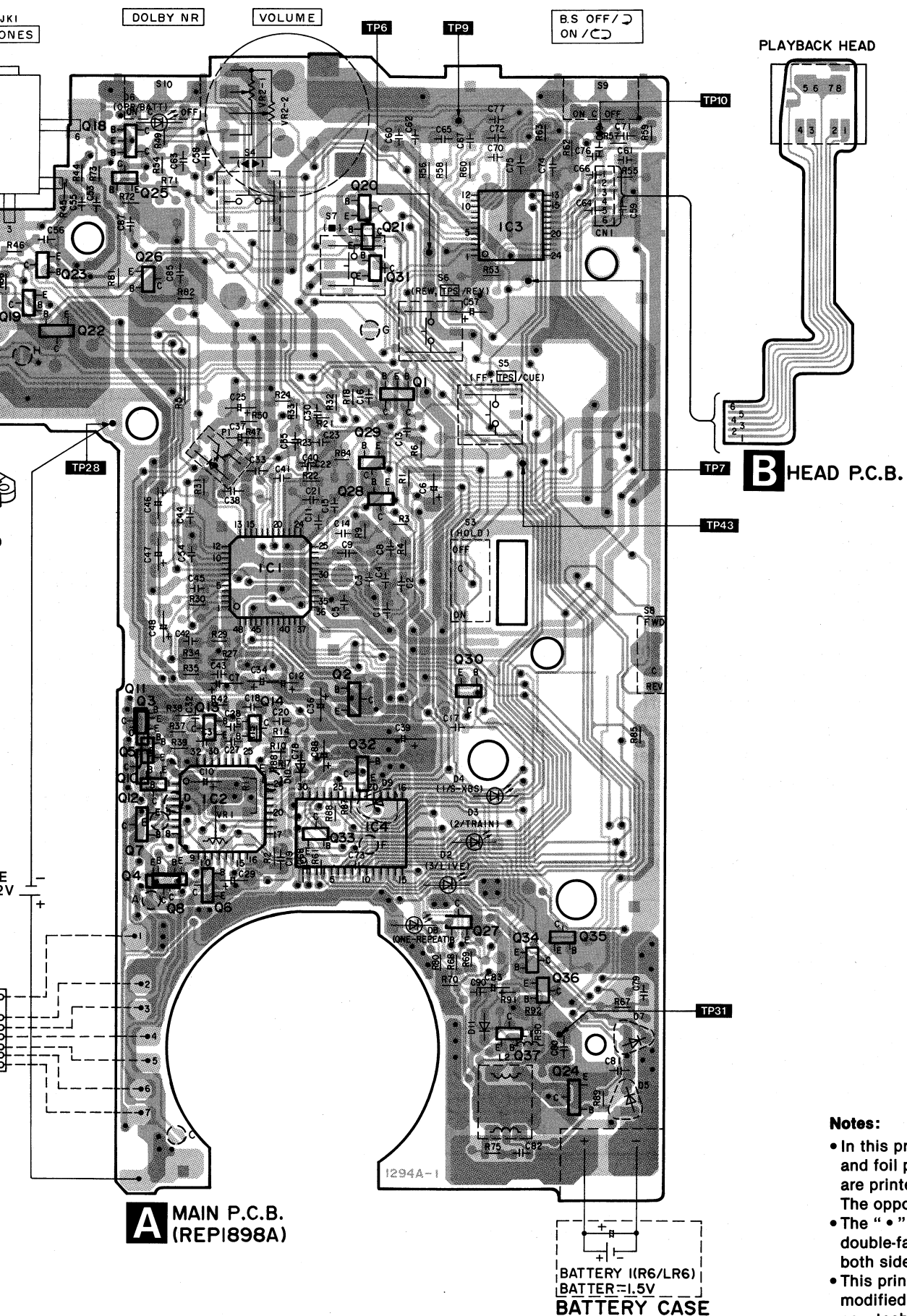
- In this printed circuit board diagram, the parts and foil patterns on the board facing toward you are printed in black. The opposite side is printed in blue.
- The "•" mark denotes the connection points of double-faced foil patterns (through holes) on both side of the printed circuit board.
- This printed circuit board diagram may be modified at any time with the development of new technology.

TERMI

• IC4 (TB200

Pin No.	Mark
1	GND
2	OSC
3	CL
4	REM1
5	REM2/34
6	LID
7	PLAY
8	FF
9	REW
10	P-CH
11	TPS IN
12	REV/BS
13	T. END1
14	XBSOFF

UNIT BOARDS AND WIRING CONNECTION DIAGRAM



Notes:

- In this printed circuit board diagram, the parts and foil patterns on the board facing toward you are printed in black. The opposite side is printed in blue.
- The "•" mark denotes the connection points of double-faced foil patterns (through holes) on both side of the printed circuit board.
- This printed circuit board diagram may be modified at any time with the development of new technology.

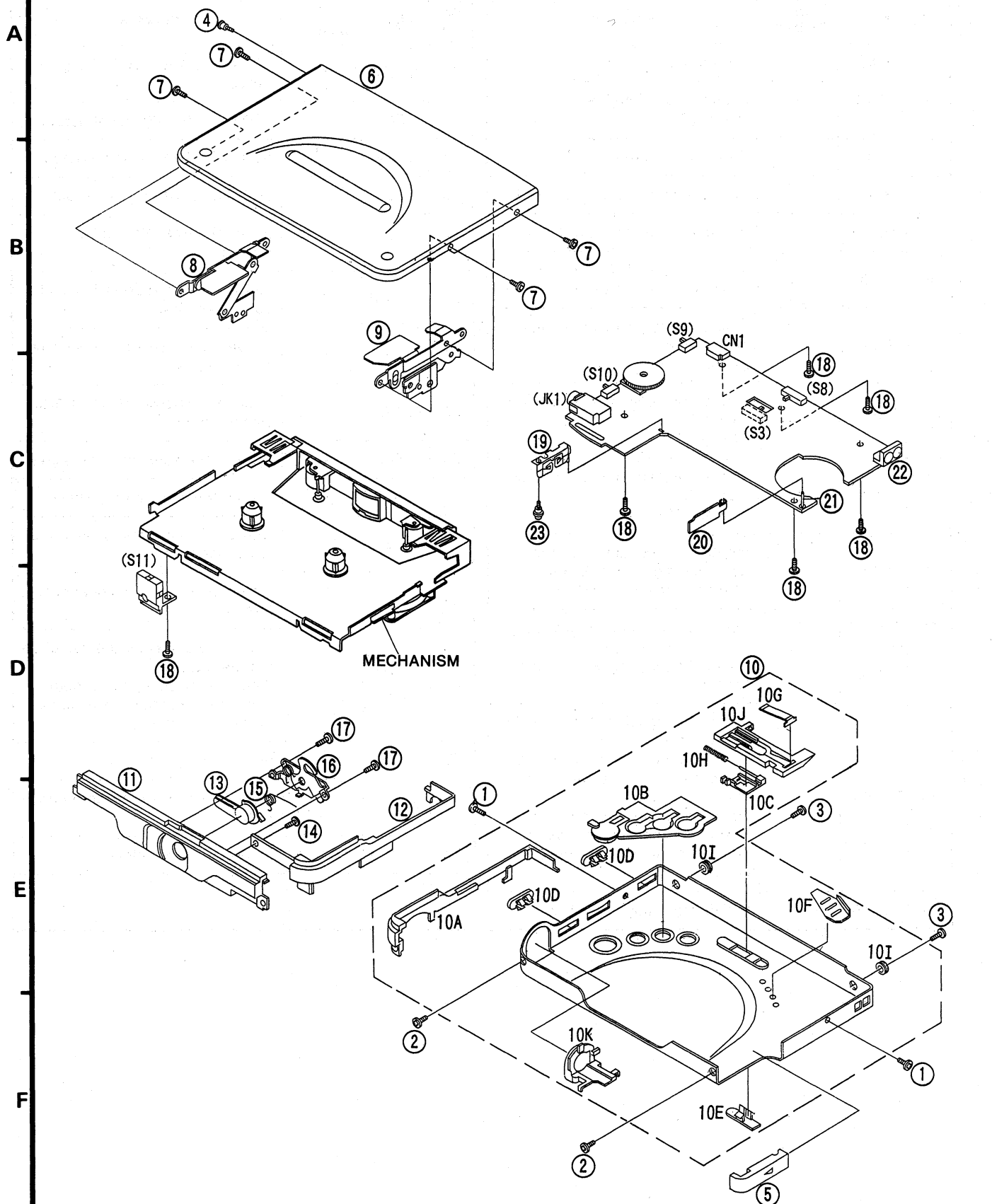
■ TERMINAL FUNCTION OF IC

• IC4 (TB2006FN003E): Mechanism control

Pin No.	Mark	I/O Division	Function
1	GND	—	GND terminal
2	OSC	I	System clock terminal fosc=3.2kHz
3	CL	I	Clear (reset) terminal
4	REM1	I	Inputs the remote control signal
5	REM2/34	I	Inputs the remote control signal
6	LID	I	Detection signal whether the cassette tape is inserted
7	PLAY	I	Inputs the mechanism operation signal (PLAY) At high: PLAY
8	FF	I	Inputs the mechanism operation signal (FF) At high: FF
9	REW	I	Inputs the mechanism operation signal (REW) At high: REW
10	P-CH	I	Inputs the mechanism status detection signal (FWD/REV) At high: FWD, At low: REV
11	TPS IN	I	Inputs the TPS detection terminal
12	REV/BS	I	Inputs the play mode detection terminal
13	T. END1	I	Inputs the signal for the detection of tape rotation. When the pulse signal is input: The current mode remains set as the tape is rotating. No pulse signal: Stops or starts reverse playback as the tape has stopped rotating (ie, reached the end).
14	XBSOFF	O	S-XBS control signal output

Pin No.	Mark	I/O Division	Function
15	R. LED	O	LED drive (ONE-REPEAT) signal output
16	LED1	O	LED drive (S-XBS) signal output
17	LED2	O	LED drive (TRAIN) signal output
18	LED3	O	LED drive (LIVE) signal output
19	F/R	I	Inputs the FWD/REV select terminal
20	MOTOR	O	Motor drive (MOTOR ON) signal output terminal
21	CCW	O	Outputs the reversing motor drive control signal
22	PWRON	O	Change the power (POWER ON) signal output
23	SOL	O	Outputs the solenoid drive signal
24	MUTE	O	Output the amp. muting signal
25	BEEP	O	Outputs the confirming beep when remote control.
26	FS	O	Motor speed control signal output terminal
27	T. END LED	I	Inputs the signal for the detection of tape rotation. When the pulse signal is input: The current mode remains set as the tape is rotating.
28	VDD	I	Power supply terminal
29	CONT	O	Outputs the DC-DC converter drive signal
30	VCC	I	Power supply terminal

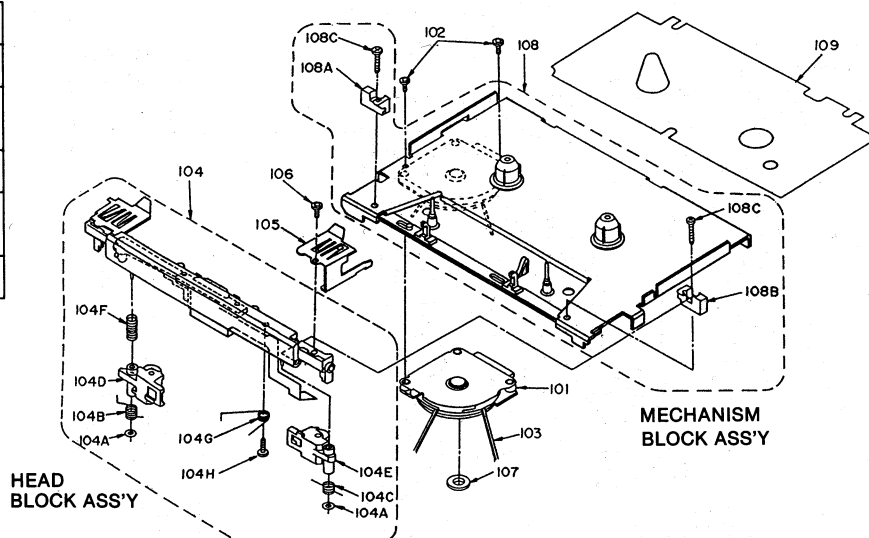
■ CABINET PARTS LOCATION



MECHANISM PARTS LOCATION

	FWD & REV mode
Wow and flutter	0.3% (WRMS)
Pressure of pinch roller	120±20g
Take-up tension	More than 60g
Playback torque	20 ⁺¹⁵ ₋₅ g·cm
FF/REW torque	More than 60g·cm

The parts enclosed in the dotted boxes are supplied as a block assembly. Therefore, they are not supplied separately except parts indicated with Ref. No.



How to apply the Mechanism Sheet

- Replacing/Repairing of a mechanism block.
Replace or repair using a shared mechanism block. (The replacing/repairing procedure remains the same.)
- If after repairing with a shared mechanism block, a user complains that the mechanism sheet is different from the original, do the following:
 - Explain that the number of replacement parts has been consolidated.
 - Attach an original mechanism sheet covering the mechanism sheet already attached to the shared mechanism block. (Doubling, doubling does not affect the unit's performance.)
 - Never attach another mechanism sheet to the doubled mechanism sheets.
 - Never remove the already attached sheet. Adhesive material cannot be removed completely.
 - Position the sheet carefully, when attaching it.

Attaching instructions

You can attach the mechanism sheet smoothly if you position the attachment line on the side where the head is to be installed.

Procedure 1: (Preparation)	Peel off the sheet from mount.	
Procedure 2: (Positioning)	Fit the encircled marks of an original sheet with those of sheet already attached.	
Procedure 3: (Attachment)	Attach the sheet.	

Note:

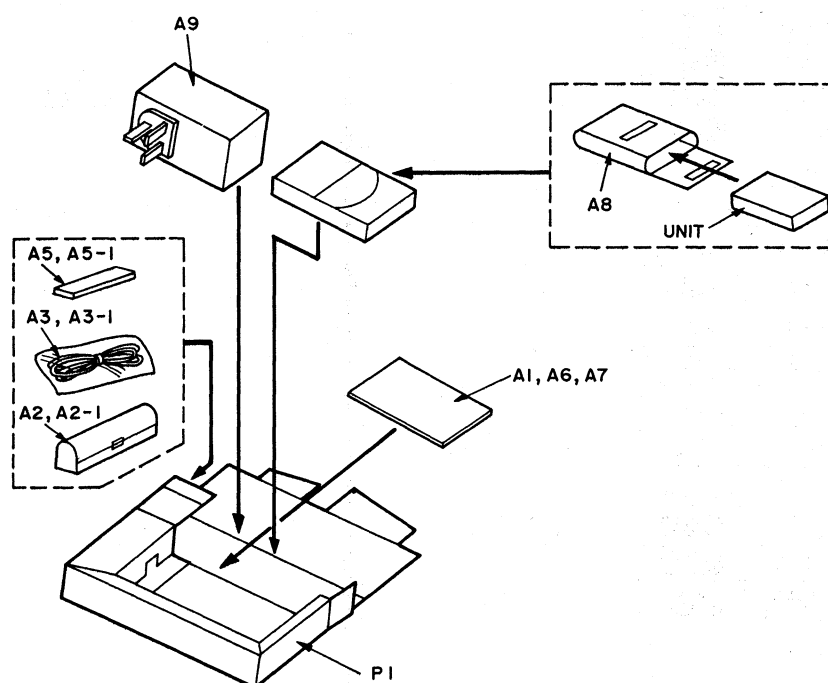
AR90IV is used in the mechanism of Model RQ-SX3.

When preparing for service, please check the parts list and order necessary parts.

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS		17	XQN14+CJ3FZ	SCREW	
1	RHE5155YA	SCREW		18	RHE5119ZA	SCREW	
2	RHE5169YA	SCREW		19	RJC99004-2	RECHARGEABLE BATT. TER(-)	
3	RHQ0043-K	SCREW		20	RJC99024	RECHARGEABLE BATT. TER(+)	
4	RHQ0044-K	SCREW		21	RJR0012	SHAFT	
5	RKD0068-K	BATTERY COVER		22	RJH9206	CONNECTION TERMINAL	
6	RFKLQX3-K	CASSETTE LID ASS'Y		23	RHQ0013-1	SCREW	
7	RHQ0048-K	SCREW				MECHANISM	
8	RXMD050	LINK UNIT(L)		101	HPX-26NB1BT	MOTOR	
9	RXMD051	LINK UNIT(R)		102	XQS14+A18FZ	SCREW	
10	RYK0466-K	CABINET ASS'Y		103	RDV0016	BELT	
10A	RGK0625-H	INTERMEDIATE ORNAMENT (1)		104	RXQ0387	HEAD BLOCK ASS'Y	
10B	RGU1041-H	MECHANISM BUTTON		104A	RNW101ZA	WASHER	
10C	RGU1061-H	RELEASE KNOB		104B	RME0125	PINCH ROLLER SPRING(L)	
10D	RGV0106-K	MODE/NR KNOB		104C	RME0005	PINCH ROLLER SPRING(R)	
10E	RGV0132-H	HOLD KNOB		104D	RXL0004-1	PINCH ROLLER ARM(L)	
10F	RKW0337-Q	LED PLATE		104E	RXL0005	PINCH ROLLER ARM(R)	
10G	RMB0363	HOLD SPRING		104F	RMB0245	HEAD ARM SPRING(L)	
10H	RMC0241	RELEASE SPRING		104G	RME0114	HEAD ARM SPRING(R)	
10I	RMG0362-K	FLOATING RUBBER		104H	RHD14032-1	SCREW	
10J	RMQ0447	HOLD SLIDER		105	RMA0784	HOLDER(R)	
10K	RMR0762-K	JACK PIECE		106	XQN14+A3	SCREW	
11	RGK0626-H	INTERMEDIATE ORNAMENT (2)		107	RJW42002-2	WASHER	
12	RGK0638-H	INTERMEDIATE ORNAMENT (3)		108	RFKRQX3-K	MECHANISM BLOCK ASS'Y	
13	RGV0133-K	OPEN LEVER		108A	RMQ0292	HOLD PIECE (L)	
14	RHE5079ZA	SCREW		108B	RMQ0293	HOLD PIECE (R)	
15	RMB0362	AUTO RETURN SPRING		108C	RHD14031	SCREW	
16	RXQ0358	LOCK UNIT		109	RKN0077-K	MECHANISM SHEET	

PACKAGING



■ REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)		D8	LN1361CUY-TR	L. E. D.	
				D9	SB00703QTR	DIODE	
				D10, 11	MA728TX	DIODE	
						VARIABLE RESISTOR(S)	
IC1	LA4592W-TFM	PRE/S-XBS/POWER AMP		VR1	EVMIYSX50B23	TAPE SPEED ADJUSTMENT	
IC2	AN6647FA	MOTOR DRIVE		VR2	EVUTOVA05A54	VOLUME CONTROL	
IC3	AN7379NSHE2	DOLBY B NR				COIL(S)	
IC4	TB2006FN003E	MECHANISM CONTROL					
		TRANSISTOR(S)					
Q1	XN1215TX	TRANSISTOR		L1	RLQU100KT-W	COIL	
Q2	2SB815B7TX	TRANSISTOR		L2	RL09U020T-T	COIL	
Q3	2SD1935-7TB	TRANSISTOR				PHOTO COUPLER(S)	
Q4	2SC4983-67TB	TRANSISTOR					
Q5	2SD1935-7TB	TRANSISTOR		P1	GP2S27T6	PHOTO COUPLER	
Q6	2SC4983-67TB	TRANSISTOR				SWITCH(ES)	
Q7	2SD1935-7TB	TRANSISTOR					
Q8	2SC4983-67TB	TRANSISTOR		S3	RSS2A012-A	HOLD	
Q10-12	2SB1219RTX	TRANSISTOR		S4	EVQPLMA15	PLAY	
Q13	2SD1819STX	TRANSISTOR		S5	EVQPLMA15	FF/CUE	
Q14	UN5215TX	TRANSISTOR		S6	EVQPLMA15	REW/REV	
Q18	XN1215TX	TRANSISTOR		S7	EVQPLMA15	STOP	
Q19	DTA123JUT106	TRANSISTOR		S8	RSS2A002-A	FWD/REV	
Q20, 21	UN5217TX	TRANSISTOR		S9	RSS2A010-A	PLAY MODE	
Q22	2SB815B7TX	TRANSISTOR		S10	RSS2A010-A	DOLBY B NR	
Q23	UN5110TX	TRANSISTOR		S11	RSH1B010-U1	LEAF (OPEN/CLOSE, TAPE)	
Q24	2SD2436STXRA	TRANSISTOR				CONNECTOR(S)	
Q25	2SD1819STX	TRANSISTOR					
Q26	2SB1218STX	TRANSISTOR		CN1	RJS2A1606T	CONNECTOR (6P)	
Q27	UN5216TX	TRANSISTOR				JACK(S)	
Q28, 29	UN5214TX	TRANSISTOR					
Q30	UN5210TX	TRANSISTOR					
Q31	DTA123JUT106	TRANSISTOR					
Q32	2SB1295-6-TA	TRANSISTOR					
Q33	2SD1819STX	TRANSISTOR					
Q34	UN5115TX	TRANSISTOR					
Q35	2SB1218STX	TRANSISTOR					
Q36	DTA143ZUT106	TRANSISTOR					
Q37	2SD1819STX	TRANSISTOR					
		DIODE(S)					
D1	MA141KTX	DIODE					
D2-4	LN1261CTR	L. E. D.					
D5	SB00703QTR	DIODE					
D6	LN1261CTR	DIODE					
D7	SB00703QTR	DIODE					

■ RESISTORS AND CAPACITORS

Notes : * Capacity values are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
 * Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM), 1M=1,000k (OHM)

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
		RESISTORS	R85	ERJ3GEYJ333V	1/16W 33K	C55, 56	ECUV1C104ZFV	16V 0.1U
			R86	ERJ3GEYJ152V	1/16W 1.5K	C57	RCSX0GY156RE	4V 15U
			R87	ERJ3GEYJ223V	1/16W 22K	C58	ECUV1C105ZFN	16V 1U
R1	ERJ3GEYJ151V	1/16W 150	R88	ERJ3GEYJ474V	1/16W 470K	C59, 60	ECUV1E822KBV	25V 8200P
R2	ERJ3GEYJ472V	1/16W 4.7K	R89	ERJ3GEYJ152V	1/16W 1.5K	C61, 62	ECUV1E153KBV	25V 0.015U
R3	ERJ3GEYJ222V	1/16W 2.2K	R90	ERJ3GEYJ105V	1/16W 1M	C63	ECUV1C105ZFN	16V 1U
R4	ERJ3GEYJ682V	1/16W 6.8K	R91	ERJ3GEYJ104V	1/16W 100K	C64, 65	ECUV1C154MBN	16V 0.15U
R5	ERJ3GEYJ473V	1/16W 47K	R92	ERJ3GEYJ103V	1/16W 10K	C66, 67	ECUV1H682MBV	50V 6800P
R6	ERJ3GEYJ392V	1/16W 3.9K			CAPACITORS	C68	ECUV1H562KBV	50V 5600P
R9	ERJ3GEYJ472V	1/16W 4.7K				C69, 70	ECUV1C123MBV	16V 0.012U
R10	ERJ3GEYJ823V	1/16W 82K				C71, 72	ECUV1C105ZFN	16V 1U
R11	RRSL41J122U	1/8W 1.2K	C1-4	ECUV1H102KBV	50V 1000P	C73	ECUV1E104MBN	25V 0.1U
R14	ERJ3GEYJ303V	1/16W 30K	C5	ECUV1H681KBV	50V 680P	C74, 75	ECUV1C334ZFN	16V 0.33U
R15	ERJ3GEYJ104V	1/16W 100K	C6	ECST0EY336RR	2.5V 33U	C76, 77	ECUV1H682MBV	50V 6800P
R17	ERJ3GEYJ683V	1/16W 68K	C7	RCSX0GY226RE	4V 22U	C78	ECUV1C224ZFN	16V 0.22U
R18	ERJ3GEYJ392V	1/16W 3.9K	C8	ECUV1C223KBV	16V 0.022U	C79	ECUV1C104ZFN	16V 0.1U
R21	ERJ3GEYJ222V	1/16W 2.2K	C9	ECUV1C224ZFN	16V 0.22U	C80, 81	ECUV1C224ZFN	16V 0.22U
R22	ERJ3GEYJ472V	1/16W 4.7K	C10	ECST1CY105RR	16V 1U	C82	ECUV1H101KCV	50V 100P
R23	ERJ3GEYJ682V	1/16W 6.8K	C11	ECUV1H472KBV	50V 4700P	C83	RCSX0GY226RE	4V 22U
R24	ERJ3GEYJ151V	1/16W 150	C12	ECST1AY225RR	10V 2.2U	C85	ECUV1C105ZFN	16V 1U
R27	ERJ3GEYJ332V	1/16W 3.3K	C13	ECUV1C183MBV	16V 0.018U	C86	ECUV1C104ZFN	16V 0.1U
R29	ERJ3GEYJ332V	1/16W 3.3K	C14	ECUV1E153MBV	25V 0.015U	C87	ECUV1H222MBV	50V 2200P
R30, 31	ERJ3GEYJ202V	1/16W 2K	C15	ECUV1C104ZFN	16V 0.1U	C88	ECST0EY336RR	2.5V 33U
R32, 33	ERJ3GEYJ102V	1/16W 1K	C16	ECUV1C183MBV	16V 0.018U	C90	ECUV1C104ZFN	16V 0.1U
R34, 35	ERJ3GEYJ563V	1/16W 56K	C17	ECUV1C104ZFN	16V 0.1U			
R37-39	ERJ3GEYJ221V	1/16W 220	C18, 19	ECUVNC224MBN	16V 0.22U			
R42	ERJ3GEYJ332V	1/16W 3.3K	C20	ECUV1E103KBV	25V 0.01U			
R44-46	ERJ3GEYJ47V	1/16W 4.7	C21	ECUV1E153MBV	25V 0.015U			
R47	ERJ3GEYJ681V	1/16W 680	C22	ECUV1C223KBV	16V 0.022U			
R49	ERJ3GEYJ151V	1/16W 150	C23	ECUV1C224ZFN	16V 0.22U			
R50	ERJ3GEYJ564V	1/16W 560K	C25	ECST0EY336RR	2.5V 33U			
R53	ERJ3GEYJ562V	1/16W 5.6K	C27, 28	ECUV1C223KBV	16V 0.022U			
R54	ERJ3GEYJ151V	1/16W 150	C29	ECST1AY225RR	10V 2.2U			
R55, 56	ERJ3GEYJ202V	1/16W 2K	C30	ECUV1C105ZFN	16V 1U			
R57, 58	ERJ3GEYJ222V	1/16W 2.2K	C31	ECUV1C223KBV	16V 0.022U			
R59, 60	ERJ3GEYJ153V	1/16W 15K	C32	ECUVNC224MBN	16V 0.22U			
R61	ERJ3GEYD393V	1/16W 39K	C33	ECUV1E104KBN	25V 0.1U			
R62, 63	ERJ3GEYJ394V	1/16W 390K	C34	ECST0GY475RR	4V 4.7U			
R66	ERJ3GEYJ152V	1/16W 1.5K	C35	ECUV1C105ZFN	16V 1U			
R67	ERJ3GEYJ102V	1/16W 1K	C36	RCSX0GY106RE	4V 10U			
R68-70	ERJ3GEYJ122V	1/16W 1.2K	C37	ECST0GY685RR	4V 6.8U			
R71	ERJ3GEYJ333V	1/16W 33K	C38	ECUVNC224MBN	16V 0.22U			
R72	ERJ3GEYJ393V	1/16W 39K	C39	ECST0GC107ZR	4V 100U			
R73	ERJ3GEYJ821V	1/16W 820	C40, 41	ECUV1H681KBV	50V 680P			
R75	ERJ3GEYJ220V	1/16W 22	C42, 43	ECUV1C104ZFN	16V 0.1U			
R79	ERJ3GEYJ221V	1/16W 220	C44, 45	ECUV1H472KBV	50V 4700P			
R80	ERJ3GEYJ391V	1/16W 390	C46-48	ECST0GY685RR	4V 6.8U			
R81, 82	ERJ3GEYJ154V	1/16W 150K	C53	ECUV1C104ZFN	16V 0.1U			
R84	ERJ3GEYJ103V	1/16W 10K	C54	ECUV1H102MBV	50V 1000P			

REPLACEMENT PARTS LIST

Notes: *Important safety notice:
 Components identified by Δ mark have special characteristics important for safety.
 Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
 When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
 *The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)
 Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIAL		A4	RKB205ZA-0	EAR PADS	
				A5	RP-BP62EYS	RECHARGEABLE BATTERY	
				A5-1	RFA0475-Q	RECHARGE. BATT. CARRYING CASE	
P1	RPK0519	PACKING CASE		A6	RQA0013A	WARRANTY CARD	
		ACCESSORIES		A7	RQCB0169	SERVICENTER LIST	
				A8	RFC0027-K	CARRYING BAG	
A1	RFKSQSX3E-K	INSTRUCTION MANUAL ASS'Y	(E)	A9	RP-BC155EY-0	CHARGER	(E) Δ
A1	RQT2586-B	INSTRUCTION MANUAL	(EB)	A9	RP-BC155EBYA	CHARGER	(EB) Δ
A2	RFA0310-K2	BATTERY CASE				<PRINTED CIRCUIT BOARDS	
A2-1	RKK0053-K	BATTERY COVER				ASS'Y	
A3	RFEV122P-KS	STEREO EARPHONES WITH R. C.					
A3-1	RGQ0090-K	CORD CLIP		PCB1	REP1898A	MAIN P. C. B. ASS'Y	(RTL)

※ This item is not attached to merchandise, but it is supplied as a replacement part.

- The marking (RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

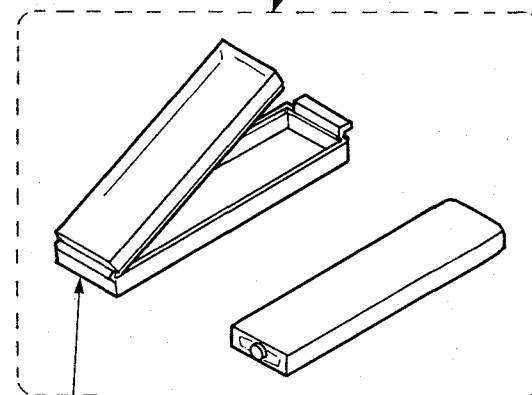
SUPPLY OF RECHARGEABLE BATTERY AS REPLACEMENT PARTS

Please take note of the following points relating to Carrying Case to be used for protection of Rechargeable Battery from shorting.

Replacement Parts:

- Rechargeable Battery (RP-BP62EYS) to be supplied will be provided with Carrying Case (RFA0475-Q).
- No replacement parts will be supplied for Rechargeable Battery without Carrying Case.
- Replacement parts will be supplied for Carrying Case (RFA0475-Q) without Rechargeable Battery.
- To your customers, delivery Rechargeable Battery together with Carrying Case to prevent shorting accidents that may occur when Rechargeable Battery is carried about without Carrying Case.

RP-BP62EYS (Rechargeable Battery with Carrying Case)



RFA0475-Q (Carrying Case)

CAUTION IN USE OF RECHARGEABLE BATTERY

- Take Rechargeable Battery out of Carrying Case and use it.
- Be sure to carry Rechargeable Battery in this Carrying Case.
 If not, it may either heat or ignite by shorting with a metal.

